Remarks

In the instant application, claims 1-10 and 12 are pending. Reconsideration of the pending claims in view of the following remarks is respectfully requested.

Rejection under 35 U.S.C. § 103

Claims 1-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rauchschwalbe et al. (US Pat. Pub. No. 2001/0034453 (hereinafter referred to as " '453") in view of Merz et al. (*Journal for Praktische Chemie*, 1996, 672-674) (hereinafter referred to as "Merz").

The '453 publication, as best understood by the Applicants, discloses a decarboxylating process of 3,4 dialkoxythiophene-2,5-dicarboxylic acid where the decarboxylation is carried out in a solvent having a higher boiling point than the decarboxylated product and where the decarboxylated product is finally obtained by distillation of the product from the solvent. *See the '453 publication paragraphs [0021] – [0022].* In contrast, claim 1 features thermal decarboxylation of 3,4 dialkoxythiophene-2,5-dicarboxylic acid as a solid in the presence of fluidized bed bodies, in the absence of solvent and discharging the product from the reaction zone in gaseous form. The process of claim 1 differs from the '453 publication in that the process of claim 1, among other features, does not feature forming the decarboxylation product in solvent as featured in the '453 publication. Furthermore, claim 1 features removing the decarboxylation product from the reaction zone in gaseous form. In contrast, the '453 publication discloses forming the decarboxylation product in solvent and subsequently distilling the decarboxylation product from the solvent. The Office's opines that by removing the product from the solvent by distillation is equivalent to instant claim 1's feature of removing the decarboxylation product from the reaction zone in gaseous form. Applicants respectfully disagree. First, in instant claim 1, the starting material is reacted as a solid in the absence of solvents and the product is removed from the reaction zone in gaseous form. Nowhere in the '453 reference does it feature either reacting the starting material as a solid or reacting in the absence of solvents. In fact, the '453 publication specifically states the use of solvents. *See paragraph [0021].*

Merz does not add to the '453 publication to cure the deficiencies in order to teach every feature of instant claim 1. Merz discloses the decarboxylation of 2,5-dicaroxy-3,4-dimethoxythiophene by exposing the compound to high heat. However, Merz does not teach that the reaction product is removed from the reaction zone in the gaseous form, as recited in claim 1. Merz teaches heating the reactant to a temperature of >250°C where a yellow-brown oil is obtained. This oil is distilled to give a colorless oil that solidifies to crystals of desired product. *See Merz, first full paragraph, second column, page 673.* There is no mention in Merz of discharging the decarboxylation product formed from the reaction zone in gaseous form, as featured in claim 1. Therefore, Merz does not add to the '453 publication to teach all the features of instant claim 1.

The Office contends that one skilled in the art would be motivated to combine the references since performing reaction without solvent is cost-effective and leads to less toxic or more green process. However, even is such were true, the combination of the '453 publication with Merz does not disclose the process of instant claim 1. At best, the combination of the '453 publication with Merz would lead one to a process of exposing the starting material to high heat in the absence of solvent but would still require a distillation step to remove the product in it's pure form. The only way the Office can contend that one skilled in the art would arrive at a process where the starting material is reacted in solid form in the absence of solvent and where the product is removed from the reaction zone in gaseous form would be based on the instant disclosure. Such an assertion results in impermissible hindsight reconstruction. Therefore, even if the two references were combined, absent the instant disclosure, one skilled in the art would not arrive at the process of claim 1. As such, the combination of the references does not render claim 1 obvious.

Furthermore, the '453 publication addresses the Merz publication in paragraph [0005] and states that a yield of only 65% is obtain in the process of Merz and that the product must be separated in a complex manner requiring a number of steps. Thus, one skilled in the art would not be persuaded to combine the references as such is discouraged in the '453 publication.

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